



South Bay Asbestos Superfund Site

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EPA Completes Additional Asbestos Sampling and Evaluation of Results

The United States Environmental Protection Agency (EPA) has completed additional asbestos sampling at the South Bay Asbestos Superfund Site (SBA) in Alviso, San Jose, California. The results of the sampling were used in an exposure assessment and risk evaluation of the Site to determine if there was a significant health risk from exposure to asbestos. EPA has concluded that the original remedy continues to be protective. This sampling was conducted as one of the follow-up recommendations identified during the Five-Year Review conducted in 2005.

Why was this sampling conducted?

The original remedial action implemented at the Site relied on an asbestos soil cleanup level of one percent or less. Recent information at other Superfund asbestos sites on how low asbestos concentrations in soil translate into actual airborne exposures raised questions about whether the original remedial actions continued to be protective. EPA determined that additional air sampling was necessary since relying on traditional soil-based sampling may not be sufficiently protective of health risks to individuals engaged in activities that disturb asbestos-containing soil. To determine if the cleanup at SBA is still protective, EPA performed activity-based sampling (ABS) in Alviso to evaluate the potential for significant exposure to asbestos during normal dust-generating activities.

What is Activity-Based Sampling?

Studies by EPA and other scientists have indicated that the best way to measure exposure to asbestos is to perform personal monitoring during dust-generating activities. This technique is called “activity-based sampling”. ABS consists of collecting air samples from the personal breathing zone

while individuals mimic typical outdoor and recreational activities. For the SBA Site, all-terrain vehicle (ATV) riding was performed as a surrogate for driving, or riding in, a motor vehicle and bicycling on the streets in town. Bicycle riding and raking were used as surrogates for soil-disturbing recreational activities at an athletic field. Roadside stationary samplers monitored bystander exposure to road dust while walking or being pushed in a stroller. Reference air samplers were also set up to measure typical outdoor air asbestos levels independent of soil disturbance.



Figure 1: EPA personnel taking activity-based samples at the SBA Site in 2007.

When and where did the sampling occur?

EPA conducted the sampling in Alviso over a five-day period of dry weather in August 2007. Sampling was conducted in four unpaved yards where there is significant vehicular traffic, in the athletic field behind George Mayne Elementary School, and along heavily trafficked roads, such as State Street and other residential streets in the community. Figure 2 shows the areas where ABS was conducted, as well as where the reference samples were collected.

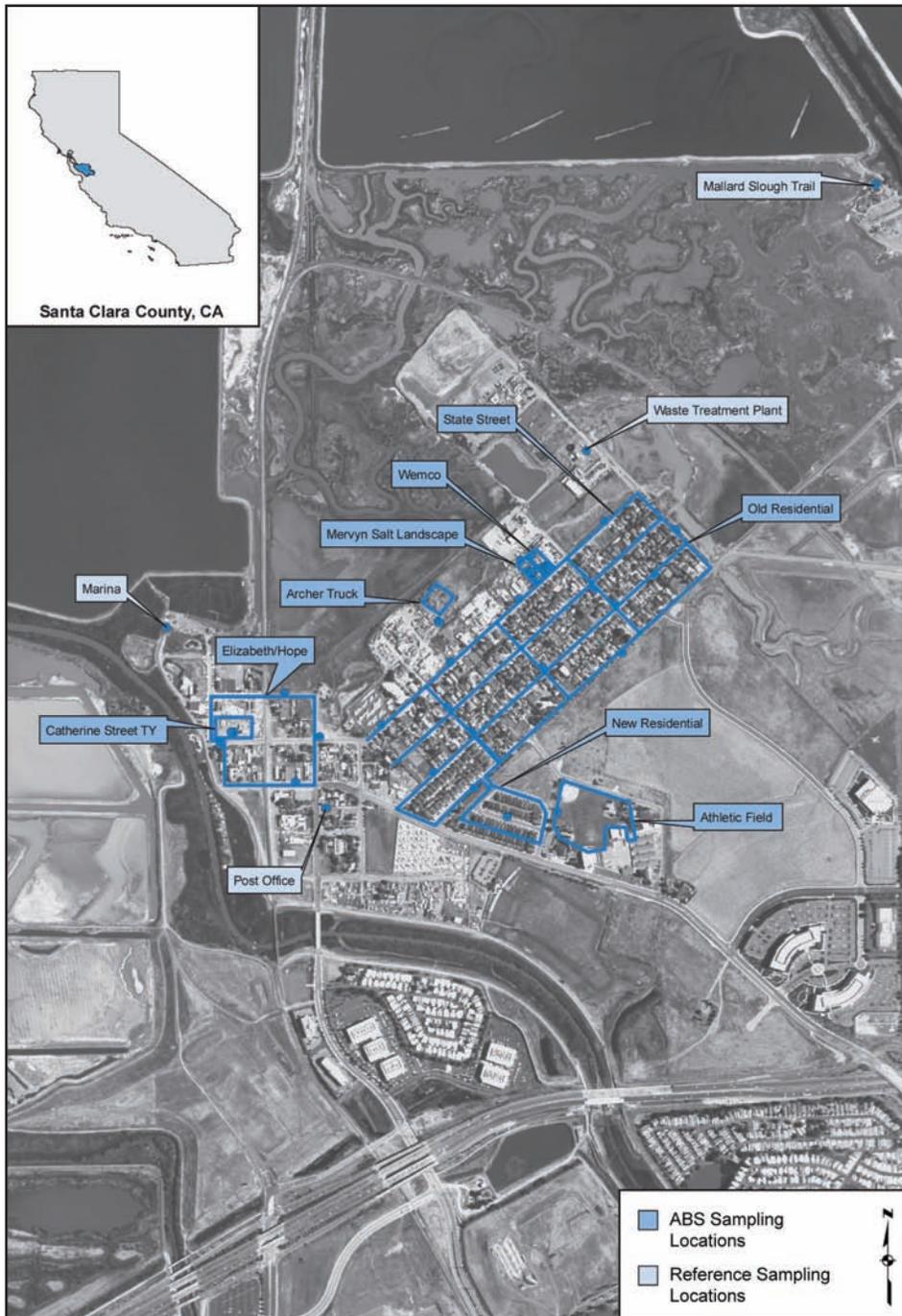


Figure 2: Site map and sampling locations

The Exposure Assessment and Risk Evaluation - What did EPA do?

The purposes of the study were to: (1) measure personal exposures to asbestos during simulated soil-disturbing activities such as playing sports or driving vehicles; (2) identify the forms of asbestos present during exposure; (3) collect asbestos air samples outside the immediate area of activity; and, (4) evaluate potential risks of developing cancer from asbestos exposure in the community. EPA has prepared the *Asbestos Exposure Assessment and Risk Evaluation Summary Report*, which documents this study in more detail.

A total of 83 air samples were analyzed for asbestos by a state-of-the-art technique using transmission electron microscopy that provides detailed and accurate readings of the type and size of asbestos fiber. The type of asbestos detected was predominantly chrysotile fibers. EPA analyzed the presence of what are known as PCME (phase contrast microscopy equivalent) fibers in the exposure assessment and risk evaluation. PCME fibers are those longer than 5 microns and the type found in most health studies which cause asbestos exposure related cancers in humans.

Personal exposure data were compiled for the various individual and recreational activities. Risk evaluation involved using exposure data to calculate excess lifetime cancer risks for exposure scenarios selected to reflect a range of activities that an individual could participate in during a lifetime

residing in Alviso. Example activities include walking/jogging/riding in a stroller; “playing” at the athletic field; bicycling in the community; driving a motor vehicle on the streets; and “quiescent activities” (e.g., eating, reading, watching TV, and sleeping). Exposure for quiescent activities, or “background” levels of asbestos in the Alviso area, was calculated by averaging the asbestos concentrations found at all of the reference stations.

What did EPA find?

Conclusion 1: The estimates of asbestos exposure are below risk-based levels of concern. No further evaluation or remedial action is recommended. Asbestos exposures from typical activities in the Alviso community result in risks that are very low and within the target risk range for Superfund remedial actions (i.e., a risk range of one in ten-thousand (10⁻⁴) to one in one-million (10⁻⁶) estimated additional cancers). EPA often considers excess cancer risks greater than approximately 1 in ten-thousand (10⁻⁴) to be eligible for remediation under the Superfund program

Conclusion 2: The original remedy for the SBA Site continues to be protective since risks from asbestos exposure in the Alviso community are very low and within the Superfund target risk range.

What do the results mean?

The results of the ABS sampling/exposure assessment and the risk characterization indicate that exposure to asbestos within the community of Alviso does not result in a significantly increased risk of developing cancer. While any exposure to asbestos can increase risk, the exposures

What is Naturally Occurring Asbestos and why is EPA concerned?

Naturally occurring asbestos (NOA) is found in rock and soil as the result of natural geologic processes, often near earthquake faults, as in San Jose and other areas of California. Most of the NOA in Alviso was brought in with soil from the surrounding areas of San Jose and used as fill material to raise the elevation of properties that were originally in low-lying areas subject to flooding. Disturbance of NOA, through construction, recreational activities, or vehicular traffic, can raise dust and release fibers into the air. Asbestos is a known human carcinogen. When people inhale too many asbestos fibers over a long period of time, their health may be at risk.

measured in Alviso during the ABS sampling are associated with a minimal increase in risk and indicate the existing remedy continues to be protective.

What happens next?

EPA is in the process of preparing the Third Five-Year Review Report for the SBA Site (scheduled for completion in September 2010). The purpose of the Five-Year Review is to evaluate current conditions and to assess whether the cleanup actions continue to protect human health and the environment. Since risks from asbestos exposure in the Alviso community are very low and within the Superfund target risk range, EPA has determined that the original remedy for the SBA Site continues to be protective.

How to Contact Us

If you have questions or concerns about the South Bay Asbestos site, please contact any of the EPA staff listed below

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Information Repositories

The Second Five-Year Review Report for the South Bay Asbestos Site, the Asbestos Summary Report cited above, as well as other documents related to the investigation and cleanup of this Superfund site, are held at the following two information repositories:

San Jose Public Library

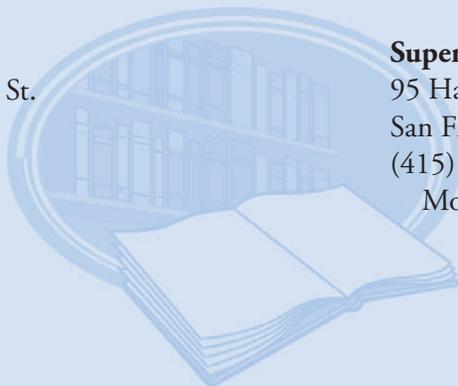
Alviso Branch, 5050 N. First St.
Alviso, CA 95002
(408) 263-3626

Email: al.sjpl@sjlibrary.org

Mon 2pm - 7pm

Tues - Wed 11am - 8pm

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Superfund Records Center

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Web Page

Information about the site is available on USEPA's webpage at: <http://www.epa.gov/region09/southbayasbestos>

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